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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 886,636	06/21/2001	Arihiro Takeda	0941 65640	6148

7890 03/27/2003

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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT	PAPER NUMBER
2871	

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/886,636	TAKEDA ET AL.
	Examiner Prasad R Akkapeddi	Art Unit 2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 03 February 2003.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,3-16 and 18-26 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1,3-16 and 18-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 03 February 2003 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.
 

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

The information on this form is subject to examination by the U.S. Patent and Trademark Office and is subject to change or correction by the U.S. Patent and Trademark Office at any time.

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 119.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____    | 6) <input type="checkbox"/> Other   |

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Amended claims 1, 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (previously cited) in view of Yoo et al. (Yoo (US 2002/0008827)).

a. As to claim 1: Suzuki does not disclose that the insulating layer comprises a plurality of insulating patterns having a dielectric constant different from a dielectric constant of a surrounding area surrounding at least one of the insulating patterns and that the insulating patterns controlling an in-plane direction of the liquid crystal molecules. Yoo on the other hand, in disclosing a in-plane switching LCD panel, discloses an insulating layer (168), plurality of dielectric protrusions (194) (insulating patterns) having a different (smaller) dielectric constant than the surrounding area (liquid crystal) (Page 6, col. 2, lines 26-27) and they serve to distort an electric field such that a multi domain for the liquid crystal molecules (80) is formed (Page 6, col. 2, lines 34-38). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the insulating patterns as disclosed by Yoo, having a dielectric constant different from a dielectric constant of a surrounding area to reduce the large rotating angle and to reduce the rapid fluctuations with respect to viewing angle associated with the conventional liquid crystal displays and thus enhancing the contrast ratio and brightness of the display (Page 1, col2, paragraph 0012).

As to claims 3 and 11: In Figs. 16 c and 17A, Yoo discloses that the thickness of the dielectric protrusions (insulating patterns) is different from the surrounding insulating layer (168) and an alignment layer (not shown) (Page 5, paragraph 0012). It is well known that the dielectric function  $\epsilon_0$  of the liquid crystal molecule. Since the insulating patterns are disposed over a plurality of

pixel electrodes (Page 3, col. 2, paragraph 0037) and the alignment layer is parallel to the pixel electrodes, it is obvious to assume that each of the insulating layers comprises an alignment layer and the molecules are vertically aligned as shown in Fig. 17A. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the insulating patterns as disclosed by Yoo, having a dielectric constant different from a dielectric constant of a surrounding area to reduce the large rotating angle and to reduce the rapid fluctuations with respect to viewing angle associated with the conventional liquid crystal displays and thus enhancing the contrast ratio and brightness of the display (Page 1, col2, paragraph 0012).

4. In addition to the above rejections, the rest of the rejections as stated in the original office action dated August 07, 2002 are still valid.
  - (a) Claims 1-6, 10-11, 25-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al (Suzuki) (U.S.Patent No. 6,256,082).
  - (b) Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Koma et al. (Koma) (U.S.Patent No. 6,362,864).
  - (c) Claims 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Hisatake et al. (Hisatake) (U.S.Patent No. 5,434,690).
  - (d) Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Kondo et al. (Kondo) (U.S.Patent No. 6,341,004).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

FRP

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March 10, 2003